APPENDIX D1:

ATLANTIC RIM NEAR-FIELD MODELING,
SOURCE EMISSIONS AND MODELING PARAMETERS

Appendix D1 – Atlantic Rim Near-Field Modeling - Source Emissions and Modeling Parameters

The following is a list of the tables included within this appendix.

D1.1 PM_{10} Source Emissions and Modeling Parameters
D1.2 $PM_{2.5}$ Source Emissions and Modeling Parameters
D1.3 SO_2 Source Emissions and Modeling Parameters
D1.4 NO_x Source Emissions and Modeling Parameters
D1.5 CO Source Emissions and Modeling Parameters
D1.6 Compression Modeling Summary
D1.7 HAPs Source Emissions and Modeling Parameters

Table D1.1
Atlantic Rim Near-Field Modeling
PM_{10} Source Emissions and Modeling Parameters

PM_{10} Sources	Modeled Emission Rate (lb/hr)	Modeled Area Source (m^2)	Modeled Emission Rate ($g/s/m^2$)	Modeled Emission Rate (g/s)	Source Type	Source Exit Characteristics and Layout	Area Source Release Height (m)	Area Source X_{init} (m)	Area Source Y_{init} (m)	Volume Source Release Height (m)	Volume Source σy_{init}	Volume Source σz_{init}
Well Pad Construction	5.82	--	--	0.733	Volume	Volume source centered around well pad.				2.29	20.92	2.13
Road Construction	0.25	--	--	0.0403	Volume	23 volume sources over the length of newly constructed road (0.25 miles). Information listed for one volume source. Emissions include road construction, heavy equipment tailpipe, and traffic.	--	--	--	2.29	8.51	2.13
Construction Traffic	0.08	--	--	0.0104	Volume	176 volume sources over a representative length of road (2 miles). Emissions include traffic.	--	--	--	2.29	8.51	2.13
Well Pad Wind Erosion	28.60	8,094.00	4.45E-04	--	Area	Area source centered around the well pad.	0.00	89.97	89.97	--	--	--
Access Road Wind Erosion	26.00	3,680.84	8.90E-04	--	Area	Divided into 5 equal area sources over length of newly constructed road. Information listed is total emissions for all 5 sources.	0.00	80.47	9.15	--	--	--

Table D1.2
Atlantic Rim Near-Field Modeling
$PM_{2.5}$ Source Emissions and Modeling Parameters

$PM_{2.5}$ Sources	Modeled Emission Rate (lb/hr)	Modeled Area Source (m^2)	Modeled Emission Rate (g/s)	Source Type	Source Exit Characteristics and Layout	Area Source Release Height (m)	Area Source X_{init} (m)	Area Source Y_{init} (m)	Volume Source Release Height (m)	Volume Source σy_{init}	Volume Source σz_{init}
Well Pad Construction	1.58	--	0.199	Volume	Volume source centered around well pad.				2.29	20.92	2.13
Road Construction	0.081	--	1.02E-02	Volume	23 volume sources over the length of newly constructed road (0.25 miles). Information listed for one volume source. Emissions include road construction, heavy equipment tailpipe, and traffic.	--	--	--	2.29	8.51	2.13
Construction Traffic	0.012	--	1.56E-03	Volume	176 volume sources over a representative length of road (2 miles). Emissions include traffic.	--	--	--	2.29	8.51	2.13
Well Pad Wind Erosion	11.44	8,094.00	1.78E-04	Area	Area source centered around the well pad.	0.00	89.97	89.97	--	--	--
Access Road Wind Erosion	10.46	3,680.84	3.58E-04	Area	Divided into 5 equal area sources over length of newly constructed road. Information listed is total emissions for all 5 sources.	0.00	80.468	9.15	--	--	--

Table D1.3
Atlantic Rim Near-Field Modeling
SO_2 Source Emissions and Modeling Parameters

SO_2 Source	Modeled Emission Rate	Modeled Emission Rate	Source Type	Source Exit Characteristics and Layout	Stack Height	Stack Temperature	Stack Velocity	Stack Diameter
	(lb/hr)	(g/s)			(m)	(K)	(g/s)	(m)
Drilling Rigs	2.21	0.278	Point	Located in the Center of the Well Pad.	5.00	675.00	30.00	0.20